Patent Claims

1. A circuit arrangement for adapting characteristic wave impedance at line ends of a vehicle data bus, comprising:

a data bus with at least two data bus lines; and

a plurality of data terminals, each having a transceiver unit that is coupled to the data bus via a connection interface, for differential-mode signal transmission on the data bus; wherein

each connection interface comprises a reactor that filters interferences on the data bus, said reactor being connected between the data bus lines and an associated transceiver unit, and an adaptation resistor network that adapts characteristic wave impedance of the data bus lines;

the adaptation resistor network is arranged between the reactor and line ends of the data bus lines;

the adaptation resistor network connects the line ends of the data bus lines to ground; and

the adaptation resistor network is connected to ground via a capacitor.

2. The circuit arrangement according to Claim 1 wherein:

the adaptation resistor network comprises stabilizing resistors at respective line ends; and

the stabilizing resistors are connected to ground via a common base capacitor.

3. The circuit arrangement according to Claim 1, wherein the stabilizing resistors have a resistance value that compensates for incorrect adaptation of the source resistance of the transceiver unit to the characteristic wave impedance of the data bus lines in differential-mode voltage.

4. The circuit arrangement according to Claim 1, wherein the voltages on the data bus lines are balanced relative to each other with respect to ground.

5. A method for adapting characteristic wave impedance at line ends of a vehicle data bus having at least two data bus lines that are connected with respective transceiver units of a plurality of data terminals associated with said data bus, said method comprising:

providing a connection interface that couples each of said transceiver units with said line ends, said connection

interface comprising a reactor connected between the data bus lines and an associated transceiver unit for filtering interferences on the data bus, and an adaptation resistor network for adapting the characteristic wave impedance of the data bus lines;

wherein said steps of providing a connection interface includes

arranging the adaptation resistor network between the reactor and the respective line ends of the data bus line; and

connecting the line ends of the data bus line to ground via a capacitor which is part of the adaptation resistor network.

6. The method according to Claim 5, wherein:

the adaptation resistor network includes stabilizing resistors connected with respective line ends; and

the stabilizing resistors are connected to ground via a common capacitor.

7. The method according to Claim 5, further comprising choosing a resistance value for the stabilizing resistors that compensates for incorrect adaptation of the source resistance

of the transceiver unit to the characteristic wave impedance of the data bus lines in differential-mode voltage.

8. The method according to Claim 5, further comprising balancing the voltages on the data bus lines relative to each other, with respect to ground.

9. A circuit arrangement for vehicles comprising:

a data bus with at least two data bus lines;

data terminals, each having a transceiver unit; and

a connecting interface coupling the data bus with the transceiver unit, said connecting interface including,

a reactor connected between the data bus line and the associated transceiver unit; and

an adaptation resistor network, arranged between the reactors and line ends of the data bus lines, said adaptation resistor network including a capacitor that connects line ends of the data bus lines to ground.

10. The circuit arrangement according to Claim 9, wherein the adaptation resistor network comprises resistors connected between the respective line ends and ground in series with said capacitor.

11. The circuit arrangement according to Claim 9, wherein said resistors have a resistance value that compensates an incorrect adaptation of a source resistance of the transceiver unit to a characteristic wave impedance of the data bus lines, in differential-mode voltage.

12. The circuit arrangement according to Claim 9, wherein the data bus lines comprise connecting lines which are balanced with respect to ground.

13. A connection interface for coupling line ends of a vehicle data bus to a differential mode signal transceiver unit of a data terminal subscriber of said data bus, said connection interface comprising:

a reactor that filters interferences on the data bus, said reactor being connected between the data bus lines and an associated transceiver unit; and

an adaptation resistor network that adapts characteristic wave impedance of the data bus lines; wherein,

the adaptation resistor network is arranged between the reactor and the line ends of the data bus lines;

the adaptation resistor network connects the line ends of the data bus lines to ground via a capacitor.

14. The connection interface according to Claim 13:

the adaptation resistor network comprises stabilizing resistors at respective line ends; and

the stabilizing resistors are connected to ground via said capacitor.

15. The circuit arrangement according to Claim 14, wherein the stabilizing resistors have a resistance value that compensates for incorrect adaptation of the source resistance of the transceiver unit to the characteristic wave impedance of the data bus lines in differential-mode voltage.

16. The circuit arrangement according to Claim 15, wherein the voltages on the data bus lines are balanced relative to each other with respect to ground.